State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

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To: DEPUTY DISTRICT DIRECTORS, Construction
CONSTRUCTION MANAGERS
SENIOR CONSTRUCTION ENGINEERS
RESIDENT ENGINEERS, Construction

Date: September 2, 2003

File: Division of Construction
CPD 03-04

From: ROBERT PIEPLOW
Chief
Division of Construction

Subject: Pile Driving Acceptance Criteria

Contract special provisions with advertisement dates later than May 1, 2003 may contain a disjointed equation for determining the nominal resistance values of driven piles. A contract change order will be required if the disjointed equation is contained within a project's special provisions and meets the requirements contained in this memorandum.

The equation of concern is located in section 1 of the affected contracts' special provisions as an amendment of section 49-1.08, "Pile Driving Acceptance Criteria," of the Standard Specifications. The disjointed equation will not include a comprehensible exponent on the "Er" term and may appear as follows:

$$Ru = (7 * (Er)^{-} * \log_{10} (0.83 * N)) - 550$$

The correct equation is shown as follows for comparison purposes:

$$Ru = (7 * (Er)^{1/2} * \log_{10} (0.83 * N)) - 550$$

If the contract special provisions contain the disjointed equation, the attached contract change order is to be issued unless any of the following conditions exist in the contract:

- Driven piles are not included or anticipated in the contract.
- Use of the nominal resistance value equation has been waived within section 10 of the special provisions as an acceptance criterion for all driven piles in the contract.

- Use of the nominal resistance value equation has been overridden within section 10 of the special provisions by specification of an alternative means for determining pile acceptance for all driven piles in the contract (e.g., wave equation analysis).

The attached contract change order will be issued as a no-cost change since the equation is industry recognized and utilization of the disjointed equation for determination of nominal resistance values of driven piles is unrecognizable.

This memorandum will serve as Division of Construction's authorization of approval for the attached contract change order. Transmittals to the headquarters contract change order desk will not be required for this change.

If you have any questions or comments regarding this construction directive, please contact Scott Jarvis, Chief, Office of Contract Administration at (916) 651-6284.

Attachment

c: HQ Construction staff

bc: CD folder
Construction Subject File, Construction Author (Darby) File

KD:sf

STATE OF CALIFORNIA - DEPARTMENT OF

CONTRACT CHANGE ORDER

Sheet 1 **of** 1

Change Requested by: Engineer ☒ **Contractor** ☐

CCO No.	Suppl. No.	Contract No.	Road	Federal Number(s)

To ***.Contractor***

You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. ***NOTE: This change order is not effective until approved by the Engineer.***

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. The last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate

The third paragraph in Section 49-1.08, "Pile Driving Acceptance Criteria," of the Standard Specifications is amended to read:

- The nominal resistance for driven piles shall be determined from the following formula in which "R_u" is the nominal resistance in kilonewtons, "E_r" is the manufacturer's rating for joules of energy developed by the hammer at the observed field drop height, and "N" is the number of hammer blows in the last 300 millimeters (maximum value to be used for N is 100):

$$R_u = (7 * (E_r)^{½} * \log_{10} (0.83 * N)) - 550$$

There shall be no cost or credit to the state by reason of this change.

Estimated Cost: : Decrease ☐ **Increase** ☐ **$ 0.00**

By reason of this order the time of completion will be adjusted as follows: None

Submitted by		
Signature	**(Print name & title)**	**Date**
Approval Recommended by		
Signature	**(Print name & title)**	**Date**
Engineer Approval by		
Signature	**(Print name & title)**	**Date**

We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefor the prices shown above. **NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specification as to proceeding with the ordered work and filing a written protest within the time therein specified.**

Contractor Acceptance by		
Signature	**(Print name & title)**	**Date**